

REMARKS

Claims 1-3, 5, 6 and 30-35 are pending in the application. Claims 1-3, 5, 6 and 30-35 are rejected. No claims are allowed.

Claims 1 and 34 have been amended to more clearly describe and distinctly claim the subject matter the Applicants consider their invention. Specifically, claim 1 has been amended to specify that the tube is pliable, and the catalytic coating applied thereto which remains intact on the carrier when the carrier is mounted within a bent or curved portion of an exhaust pipe. Similarly, claim 34 has been amended to specify that the carrier is pliable and catalytic coating remains intact on the carrier after the carrier has been placed in a bent or curved configuration.

Claims 37 to 43 have been newly added to cover additional embodiments disclosed in the pending application. Specifically, claims 37 to 43 are directed to a catalytic assembly comprising a conformable catalyst member disposed within a bent or curved portion of an exhaust pipe, wherein the conformable catalyst member comprises a pliable refractory metal carrier having coated thereon an intermetallic anchor layer and a catalytic coating, as well as various embodiments thereof.

Support for the new and amended claims can be found throughout the specification and figures as originally filed, *e.g.*, page 4, lines 12-21; page 5, line 29 to page 6, line 11; page 8, lines 17-31; page 9, lines 16-28; page 10, lines 7-32; page 11, lines 1-6; page 13, lines 22-32; page 14, lines 1-12; page 15, lines 19-33; Figures 4 and 9. Accordingly, no new matter has been introduced by this amendment.

Claims 1-3, 5, 6 and 30-43 are presented for further proceedings. Reconsideration of the claim rejections and allowance of the pending claims in view of the amendments above and following remarks are respectfully requested.

Claim Rejections – 35 U.S.C. § 103

a. Claims 1-3, 5, 6 and 31-34 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Ishida (US 4,455,281; “Ishida”) in view of Uchida et al. (EP 0831211; “Uchida”), for essentially the reasons of record. In response to Applicants’ arguments and Declaration submitted on October 30, 2007, that none of the cited references teach or suggest a catalyst member containing a catalytic coating that can be placed in a bent or curved configuration and retain the catalytic coating, the Examiner states that such a property is only an intended use. As such, the Examiner maintains that the catalyst in Ishida can be formed in the desired shape, bent or otherwise, before the anchor layer is deposited onto the carrier, and the Figures 16A and B of Uchida show a catalyst that can be shaped to fit into a bent of an exhaust pipe. Applicants respectfully traverse this basis for rejection.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), *viz.*, (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art. “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977

F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). To establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Furthermore, although the analysis need not identify explicit teachings directed to the claimed subject matter, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385, 1396 (2007). As such, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

While Applicants continue to disagree with Examiner’s characterization of the pending claims and the cited references, claims 1 and 34 have been amended in the interest of expediting prosecution to clarify that the placement of the conformable catalyst member within a bent or curved portion of an exhaust pipe (claim 1) or in a bent or curved configuration (claim 34) is a positive limitation of the claims, and that the catalyst member retains the catalytic coating following this placement. Similarly, newly added claims 37-43 are directed to a catalytic assembly comprising a conformable catalyst member disposed within a bent or curved portion of an exhaust pipe. As such, Applicants submit that the placement of the catalyst member in a bent or curved configuration is not an “intended use,” and it is error for the Examiner to disregard this feature of the claims.

With regard to the cited references, Ishida does not teach or suggest a catalyst member that retains its catalytic coating following placement within a bent or curved

portion of an exhaust pipe. Whether or not the metal plates of Ishida can be bent, there is no teaching or suggestion in Ishida that they can be placed in a bent or curved portion of an exhaust pipe, or that the catalytic coating will be retained following placement. Indeed, Figure 1 of Ishida shows the complete opposite, namely placement of the plates in a linear fashion in the reactor, with no plates in the curved ducts leading into and out of the reactor.

Uchida does not cure the deficiencies of Ishida. Contrary to the Examiner's assertion, Figures 16A and B of Uchida do not suggest to one skilled in the art that exhaust purifier 50 can be shaped to fit into a bent portion of an exhaust pipe. Although exhaust purifying apparatuses 61 and 63 contain curved portions, none of the exhaust purifiers are positioned in the curved portions. Rather, they are all placed in the linear regions of the apparatuses. In this respect, Uchida is consistent with Figure 1 of Ishida. Thus, even if combined, Ishida and Uchida do not teach or suggest placement of a catalyst member within a bent or curved portion of an exhaust pipe, let alone retention of the catalytic coating following placement.

Accordingly, Applicants submit that claims 1-3, 5, 6 and 31-34 (as well as newly added claims 37-43) are not unpatentable over Ishida in view of Uchida, and reconsideration of this basis for rejection is respectfully requested.

b. Claims 30 and 35 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Ishida in view of Uchida as applied to claims 1-3, 5, 6 and 31-34, and further in view of Donomoto et al. (US 4,798,770; "Donomoto") or Draghi et al. (US 6,042,879; "Draghi"), for essentially the reasons of record.

As discussed above in section a., while Applicants continue to disagree with Examiner's characterization of the pending claims and the cited references, claims 1 and 34 have been amended in the interest of expediting prosecution to clarify that the placement of the conformable catalyst member within a bent or curved portion of an exhaust pipe (claim 1) or in a bent or curved configuration (claim 34) is a positive limitation of the claims, and that the catalyst member retains the catalytic coating following this placement. Similarly, newly added claims 37-43 are directed to a catalytic assembly comprising a conformable catalyst member disposed within a bent or curved portion of an exhaust pipe.

Where an independent claim is found nonobvious over certain prior art, any claim dependent therefrom is *a fortiori* nonobvious over the same prior art. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Furthermore, nothing in Donomoto or Draghi, even in conjunction with Ishida or Uchida, teaches or suggests to one skilled in the art the placement of a catalyst member within a bent or curved portion of an exhaust pipe, let alone retention of the catalytic coating following placement.

Accordingly, Applicants submit that claims 30 and 35 (as well as newly added claims 37-43) are not unpatentable over Ishida in view of Uchida, and further in view of Donomoto or Draghi, and reconsideration of this basis for rejection is respectfully requested.

c. Claims 1-3, 5, 6 and 30-35 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Gorynin et al. (US 5,204,302; "Gorynin") in view of Uchida, optionally further in view of Rondeau (US 4,027,367; "Rondeau") and Ishida, for essentially the reasons of record. As with the rejection discussed in section a. above, the

Examiner asserts that bending a catalyst member for placement in a bent or curved configuration is only a statement of intended use.

As discussed above in section a., while Applicants continue to disagree with Examiner's characterization of the pending claims and the cited references, claims 1 and 34 have been amended in the interest of expediting prosecution to clarify that the placement of the catalyst member within a bent or curved portion of an exhaust pipe (claim 1) or in a bent or curved configuration (claim 34) is a positive limitation of the claims, and that the catalyst member retains the catalytic coating following this placement. Similarly, newly added claims 37-43 are directed to a catalytic assembly comprising a conformable catalyst member disposed within a bent or curved portion of an exhaust pipe.

As with Ishida and Uchida discussed above, nothing in Gorynin or Rondeau teaches or suggests to one skilled in the art the placement of a catalyst member within a bent or curved portion of an exhaust pipe, let alone retention of the catalytic coating following placement.

Accordingly, Applicants submit that claims 1-3, 5, 6 and 30-35 (as well as newly added claims 37-43) are not unpatentable over Gorynin in view of Uchida, optionally further in view of Rondeau and Ishida, and reconsideration of this basis for rejection is respectfully requested.

#### Objections to Declaration

The Examiner has objected to the Declaration Under 37 C.F.R. § 1.132 of Michael P. Galligan ("Galligan Declaration"), submitted on October 30, 2007, in the instant case, as not commensurate with the scope of claimed invention. Specifically, the

Examiner asserts that the closest prior art, Ishida, discloses a metal plate that can be subjected to bending, not a rigid catalyst as shown in the declaration. The Examiner also asserts that Applicants' claims are drawn to a catalyst product, which can be used in various other applications apart from the process for treating exhaust gas from a motorcycle engine as used in the declaration.

As discussed above in section a., while Applicants continue to disagree with Examiner's characterization of the pending claims and the cited references, claims 1 and 34 have been amended in the interest of expediting prosecution to clarify that the placement of the catalyst member within a bent or curved portion of an exhaust pipe (claim 1) or in a bent or curved configuration (claim 34) is a positive limitation of the claims, and that the catalyst member retains the catalytic coating following this placement. Similarly, newly added claims 37-43 are directed to a catalytic assembly comprising a conformable catalyst member disposed within a bent or curved portion of an exhaust pipe.

Also as discussed in section a., regardless of whether or not the metal plates of Ishida can be bent, there is no teaching or suggestion in Ishida that they can be placed in a bent or curved portion of an exhaust pipe, or that the catalytic coating will be retained following placement. Indeed, Figure 1 of Ishida shows the complete opposite, namely placement of the plates in a linear fashion in the reactor, with no plates in the curved ducts leading into and out of the reactor. As such, the use of a rigid tube placed in a linear portion of the exhaust pipe as explained in the Galligan Declaration was a proper comparison in light of the teachings of Ishida.

In addition, each of the pending claims is concerned with the treatment of exhaust gas. As such, Applicants submit that the results from testing of the catalyst member in a close-coupled position in the exhaust stream of a motorcycle are commensurate with the scope of the claims, particularly since unexpected results were achieved even in this severe testing environment.

Accordingly, should the above amendments and accompanying remarks not overcome the claims rejections, Applicants request that the Examiner reconsider the Galligan Declaration and the evidence of unexpected results described therein.

### CONCLUSION

It is believed that claims 1-3, 5, 6 and 30-43 are now in condition for allowance, early notice of which would be appreciated. No fees are believed due at this time. If any fees are due, however, the Commissioner is authorized to charge Deposit Account No. 05-1070. Please contact the undersigned if any further issues remain to be addressed in connection with this submission.

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Respectfully submitted,

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